

Lifting Operations (Excavators, Tele-handlers, MEWP's and Lorry Loaders etc.)

Contents

1.	Purpose	1
2.	Scope.....	1
3.	Minimum competency requirements	1
4.	Responsibilities.....	1
5.	Definitions	2
6.	Attributes and selection of personnel	2
7.	Competent persons	2
8.	Supervisors.....	2
9.	Training.....	3
10.	Implementation	3

1. Purpose

The purpose of this procedure is to ensure the correct selection, safe use and maintenance of all lifting equipment and lifting accessories as prescribed in the Lifting Operations and Lifting Equipment Regulations (LOLER).

2. Scope

This procedure covers all **Fusion Projects** and locations under the control of Fusion.

3. Minimum competency requirements

- Appointed Person (AP) must hold the Construction Plant Competence Scheme (CPCS) certification (may hold ALLMI for lorry loader lift planning only).
- Crane Lifting Operations Supervisors (CLOS) must hold CPCS certification
- Lift supervisors must hold CPCS certification
- Singer / signaller must hold CPCS certification (may also hold ALLMI for lorry loader operations only)
- Plant operator must hold CPCS training certification for the particular type of plant to be used, including any endorsements required.
- Other lifting equipment, operators must hold suitable training certification relevant to the category of lifting equipment being used. Such as IPAF, Consumer Product Safety Commission (CPSC), Association of Lorry Loader Manufacturers and Importers (ALLMI), RITBA & RTITB.

4. Responsibilities

The following duty holders must be appointed for all lifting operations in accordance with current guidance and their responsibilities are detailed below:

Safe and sustainability director

Authorises this procedure

Project / site manager

The project manager shall:-

- Ensure that this procedure is implemented for all types of lifts
- Arrange for appropriate measures to be put in place for the control of change with regards to Risk Assessment / Method Statements (RAMS)
- Appoint a Fusion authorised person to sign off permits to lift
- Check the competency of all persons involved in the planning and carrying out of lifting operations

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SH9 STD2	SH PRO9	Rev 0	Declan Davis	May 16	1 of 9

Management System

Standard

- Appoint a Fusion person to coordinate the relevant plans, permits, forms and associated paperwork for the Fusion filing system.

5. Definitions

Basic lift

An operation where the weight of the load(s) can be simply established, and there are no hazards or obstructions within the area of the operation or any lift using lifting equipment. The AP must provide a Risk Assessment / Method Statement (RAMS) for the operations.

Intermediate lift

Any lift using lifting equipment and lifting accessories.

Complex lift

A lift where the lifting operation requires more than one item of plant to lift the load, or plant using load enhancement attachments, or the lift is to take place at a location with exceptional hazards, e.g. chemical plant or lifting loads on or near live equipment, including Rail Infrastructure.

6. Attributes and selection of personnel

It is essential that planning, supervisory and operating personnel involved with the selection, and use of telehandlers have the necessary attributes to ensure that they will be able to carry out their duties both effectively and safely

The trained appointed person shall be responsible for the planning and management of all lifting operations, including telehandlers, forklifts, lorry loaders, AP shall have the appropriate knowledge, ability and time to carry out their duties, shall be suitably trained and have appropriate knowledge of lifting appliances, lifting operations and legislation.

Lift supervisor

Act as a key member of the site team and report to the AP details of any change in activities or arrangements.

Slinger / signaller

Slinging duties should only be carried out under the direction of qualified slingers who are in possession of a valid CPCS certificate of competence. ALLMI accepted for Lorry Loader operations only.

Operators

The operator must produce a valid competency card (CPCS/IPAF/ALLMI) for the categories of lifting equipment they are operating.

7. Competent persons

Competent persons carrying out planning of the use of lifting equipment should know and understand:

- The principles and hazards associated with the equipment operation
- What the equipment can and can't be used for.

8. Supervisors

Supervisors should know and understand:

- The principles of the equipment operation
- What the telehandler can and can't be used for
- The hazards associated with the equipment operation including
 - Electrocution – contacting overhead power lines
 - Colliding with pedestrians, crushes and trapping
 - Falling loads, falling from height (when lifting people)
 - Loss of control, overturning, insecure attachments
 - The checks and inspections that are required on a daily and weekly basis
 - How to attach and detach an attachment in the prescribed manner
 - How to carry out checks to ensure the attachment has been correctly engaged

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SH9 STD2	SH PRO9	Rev 0	Declan Davis	May 16	2 of 9

Management System

Standard

- That work must be carried out to the method statement unless it is unsafe to do so in which case work must stop
- That accidents and incidents are mainly caused by incorrect planning and use
- The increased risks when telehandlers are being operated in the vicinity of other people and ensure / maintain exclusion zones wherever possible.

Supervisors should be able to:

- Carry out an effective observation and know what to look for
- Recognise bad practice and unsafe behaviour.

9. Training

In addition to basic training, operators should be familiarised with the controls, characteristics, safety devices, decals and emergency rescue systems on the machines they are authorised to operate. Before operating a particular machine the operator should be able to prove that they have received familiarisation on that type of machine, for example through entries in their log book (or similar). If this cannot be demonstrated then the operator should undergo familiarisation, or if they are authorised to do so by their employer, self-familiarise themselves using the manufacturer's instructions.

The employer of the user is responsible for ensuring that familiarisation is provided.

It should be noted that basic telehandler operator training does not include the lifting of suspended loads, the lifting of persons or the use of other attachments. If such tasks are to be carried out the Fusion manager must ensure that the operator is suitably trained and assessed as competent by their employer, if necessary training and competency checks can be carried out by a local training provider or in house by the Fusion CPCS test centre.

10. Implementation

10.1 General requirements

The LOLER require the appointment of duty holders as noted above to ensure all lifting operations are properly planned, managed and executed. That those involved in lifting operations are competent, the risks from lifting operations are assessed and lifting equipment and lifting accessories selected and used are suitable for the task. When in use, the equipment must be stable and the safe working load of equipment and accessories MUST NEVER be exceeded.

10.2 General rules for plant lifting operations

Vertical lifts only

- The weight of the load (including lifting gear, etc.) shall be confirmed before lifting
- The safe working load shall never be exceeded; if the rated capacity indicator is activated this shall be investigated
- When lifting a load for the first time the machines stability shall be checked when the load is just off the ground
- No operation shall be carried out where high winds affect the stability of the load or the lifting appliance. Limits on wind speeds shall be determined (i.e. by reference to the operator's manual) The means for determining wind speed shall be by use of an anemometer fitted or available on site.

10.3 Lifting operations

Other than crane lifts, numerous operations fall under the category of lifting operations under the LOLER. These may include:

- Forklift trucks
- Excavators (used as lifting devices)
- Hoists and material lifting equipment (all types)
- Lorry loaders (or vehicle mounted lifting arm) operations
- Scaffold pulley wheels (gin wheels)
- Working platforms i.e. Mobile Elevated Work Platforms (MEWP's), mast climbers.

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SH9 STD2	SH PRO9	Rev 0	Declan Davis	May 16	3 of 9

Management System

Standard

Any equipment that lifts a load out of its initial horizontal plane by means of a rope and hook, or chain and hook is a crane, and is subject to the same inspection regime and rules as all other lifting appliances. Operators of these items of equipment must meet the training and other requirements laid down in the SH PRO9 Control and Safe Use of Cranes process.

10.4 Telehandlers

- Telehandlers shall only be used when the telehandler is stationary and lifting on substantially flat, level and compacted ground
- If a telehandler is used in other circumstances such as travelling with loads on the forks, travelling or lifting on slopes or with attachments other than forks, the additional risks must be reassessed.

10.5 Visibility

- Telehandlers must be fitted with aids to improve visibility and the operator's awareness of people in the vicinity of the telehandler. These aids should be in good working order and properly adjusted
- It is the operator's responsibility to check the condition of all secondary aids to visibility and NOT TO USE THE MACHINE if they are not present or not working correctly
- It is the supervisor's responsibility to fully support the operator in this action
- Whatever the application of a telehandler, it remains the operator's principal responsibility to ensure clearance from personnel around. If he cannot see clearly, he should seek assistance or leave the cab to look around if it is safe to do so
- Pedestrians must be segregated from moving vehicles, including telehandlers. Thought should also be given to the operator's ability to keep the load in view at all times, particularly with high reach telehandlers where the operator may have difficulty in judging distance at height.

10.6 Selection of telehandlers and attachments

- Attachments for use with telehandlers must be chosen with care to ensure that that the combination of telehandler and attachment is both safe and productive
- It is essential that all attachments are compatible with the telehandler with which they are to be used. The telehandler manufacturer must be consulted where third party attachments are to be used
- The selection of the telehandler and any attachments should be part of the planning process
- Care should be taken to ensure that the persons both fitting and using the attachments are competent to do so. The fitting of an attachment may alter the characteristics of the telehandler.

10.7 Suspended loads

If the carrying of a suspended load is permitted on-site, the following points must be followed:

- Only an attachment properly designed for such lifting should be used
- Suspended loads should not be attached to chains or slings over the forks or carriage
- The boom should only be lifted enough to suspend the load 300-500millimetres above the ground
- Visibility may well be reduced, and appropriate control measures should be used
- Any load swing must be minimised by selection of appropriate attachment equipment, delicate use of controls and slow travel speeds
- The machine should travel extremely slowly and never above walking pace
- The operator should not attempt to cross inclines as the centre of gravity of the suspended load will move towards the tipping line, thereby reducing stability
- The operator should only climb / descend inclines with extreme care as descending an incline will cause the centre of gravity of the suspended load to move towards the tipping line, thereby reducing forward stability.
- A CPCS qualified S/S with the 'All Duties' endorsement must be in attendance at all times.

10.8 Telehandler quick hitches

Some telehandlers are fitted with "quick hitches" or "quick couplers" which enable attachments to be changed easily and rapidly. They fall into two types, mechanical quick hitch and hydraulic quick hitch.

Both types of quick hitch can allow the attachment to become detached from the quick hitch if the manual locking pin is left out or the hydraulic locking pin fails to engage fully. There have been several serious injuries caused by falling attachments and misuse.

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SH9 STD2	SH PRO9	Rev 0	Declan Davis	May 16	4 of 9

Management System

Standard

It is essential that operators get out of the cab to physically ensure that all quick hitches are securely locked before starting work with a newly attached attachment.

Familiarisation

Telehandlers come in a variety of shapes and sizes with significant differences in operating controls and characteristics. It is therefore essential that operators and supervisors are given adequate familiarisation on an unfamiliar type or model of telehandler before they begin operations. **The employer of the telehandler user is responsible for ensuring that familiarisation is provided.**

10.9 Review and monitoring

It is important that the use of telehandlers is subject to regular review and constant monitoring to ensure that tasks are being carried out as planned, that supervisors and operators have the necessary competences and that planning is effective.

10.10 Scheduled maintenance

It is the responsibility of the site management to ensure that all telehandlers are adequately maintained in efficient working order and in a state of good repair. A scheduled planned preventative maintenance program helps to meet these requirements. A record of maintenance should be kept for each telehandler.

10.11 Forklift trucks

Forklift trucks shall:

- Be provided with suitable rollover protection. This may be in the form of a safety cab, or roll over protection bars and safety belts
- Be marked with their safe working load and shall have suitable information on the various safe working loads at different configurations
- Have a suitable system for indicating when the safe working load is being reached shall be provided. These may be in the form of capacity limiters or capacity indicators
- Not to be used if it is known to have a defect likely to affect its safe operation.

The driver of the forklift shall:

- Check over his machine each day to ensure any defects found are to be reported to site management
- Conduct and record weekly inspections
- Ensure no passengers are carried on the fork truck
- Drive at a safe speed for the prevailing conditions.

10.12 Excavators

Excavators should not be used under any circumstances for the lifting of persons as they are primarily designed for excavating with a bucket and consequently are capable of operating speeds and movements which make them totally unsuitable for the lifting of persons. Excavators shall have the safe working load clearly displayed.

Lifting operations must be properly planned, appropriately supervised and carried out in a safe manner, and this includes lifting by earth moving machinery. The competent person (AP) must first carry out a risk assessment, which will include ensuring that the earth moving machinery is suitable for the task, which adequate lifting accessories are available and the ground conditions are suitable.

Supervision must ensure arrangements are in place to ensure that were excavators are to be used for lifting, a lift plan will be produced by a CPCS trained AP and that the excavator operator provides evidence of training in lifting operations, this is an additional module of training to the CPCS for excavators (module A59).

The lifting accessories, including quick hitches, should be suitable for the load and marked with their safe working load.

Where the hooking device (the point on the machine designed for connection of the load) is not part of the bucket, the bucket must be removed in order to improve visibility and reduce the weight being lifted. If the bucket is retained, then the weight of both the bucket and quick hitch must be added to the load

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SH9 STD2	SH PRO9	Rev 0	Declan Davis	May 16	5 of 9

Management System

Standard

when determining whether the load is within the rated capacity. Any earth-moving machine designed for object handling must have a rated object handling capacity table available inside the cab

10.13 MEWP'S

- (Please refer to the [MEWP Standard – SH9 STD3](#))

10.14 Lorry loaders

On all sites, operators of site-based lorry loaders must hold a CPCS or ALLMI card covering the operation of lorry loaders. The crane plan assessment of common lifts will determine further requirements for a separate CPCS/ALLMI slinger signaller card. Where possible this standard should be imposed upon suppliers delivering materials to site.

If used to unload standard materials such as bricks or pipes, a lift plan is still required but can be written as a Basic lift operation without a site visit. A site visit must be performed if there are significant hazards within the lifting area or access. This must be determined at procurement stage.

If however a lorry loader is to be used for general site lifting or particularly large, complex or potentially high risk lifts, then the same principles for planning, testing, supervising and executing the lift are required as for a conventional crane lifts and a lifting plan should be completed. In both cases the following points must be observed:

Lorry loaders must

- Be operated on firm level ground with the outriggers properly deployed and the vehicles tyres correctly inflated, spreader plates are required under the outrigger feet
- Only be used with outriggers partially retracted if this duty is permitted by the manufacturer
- Always be positioned so that there is no risk of the operator being trapped between the lorry and the load or loader arm
- Have operating controls clearly marked
- Where the Safe Working Load (SWL) is in excess of 1,000 kilograms (or an overturning moment in excess of 40,000 N/m be fitted with suitable overload cut out devices. These must enable the boom to return to a safe position in the event of an overload
- Where the SWL is dependent upon the operating radius or boom configuration, have a load radius diagram provided at each operating position.

Positioning of the lorry loader should take account of all the factors that may affect its safe operation, particularly the following:

- The standing and support conditions
- The presence and proximity of other hazards
- The effect of wind during in-service and out-of-service conditions
- The adequacy of access to allow the placing or erection of the lorry loader in its working position, and for dismantling and removing the lorry loader after completion of lifting operations.

Where more than one operating position is provided the operator should ensure that no person is in a position to interfere with the second set of controls. Operators should have a clear view of the whole lifting operation.

10.15 Hoists general

- Hoists shall be erected by competent persons in strict accordance with manufactures recommendations, ensuring that the free-standing height is ever exceeded
- Only a trained driver over the age of 18 must operate the hoist
- Manufacturers wind speed limits shall be strictly obeyed.

For all hoists the site manager shall ensure

- That it has a thorough examination on first erection, after removal to a new location, and after alteration, damage or repair, and at 12 monthly intervals (six monthly for passenger hoists)
- That a weekly inspection is carried out by a competent person and the results recorded in the inspection register
- Instigate procedures to ensure that safe practices are followed.

The legal requirement for thorough examination incorporates the need for tests as appropriate. Drop tests are not appropriate for passenger hoists. Test shall be 25% overload test and functional tests only.

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SH9 STD2	SH PRO9	Rev 0	Declan Davis	May 16	6 of 9

10.16 Elevator hoists (inclined hoist)

Hot asphalt or bitumen shall not be carried on these hoists unless in sealed containers.

These hoists must

- Be based on level firm ground with all jacks extended and supported on sturdy timbers
- Have the head of the mast securely tied to the structure or main scaffold
- Be erected to comply with the manufacturer's requirement for additional supports where the mast is extended.

The following must be provided:

- An operator's safety shield, positioned above the control point
- A safe platform at the head of the hoist for landing materials protected by guardrails
- An area below the hoist and around the base of the hoist fenced off to prevent access into areas where injury would be likely from materials which may fall from the hoist trolley. All fencing and barriers at the base or head of elevator must be accordance with Guidance Note PM63, Inclined Hoists Used in Building and Construction Work.

10.17 Passenger hoists

A passenger hoist requires

- The passenger cage to be fully enclosed with a suitable material
- Gates on the cage and at all access points
- The gates to be fitted with mechanical and electrical interlocking devices so that they can only be opened at landing stages
- To be fitted with both upper and lower overrun devices
- The cage to be fitted with suitable arresting equipment which will automatically support the cage in the event of a failure of the lifting gear or ropes
- The cage to be fitted with a sign stating the SWL and/or the maximum number of passengers to be carried at any one time.

A trained driver over the age of 18 shall be employed to operate the hoist.

Manufacturers wind speed limits shall be strictly obeyed.

Note: The legal requirement for thorough examination incorporates the need for tests as appropriate. Drop tests are not appropriate for passenger hoists. Test shall be 25% overload test, and functional tests only.

10.18 Platform hoists and material hoists

Gates are required at all landing and access points and each gate shall be fitted with signs to read:-

- No Passenger Permitted
- Safe Working Load
- Keep Gates Closed

The hoist shall be securely fixed inside a suitable scaffold tower that must be tied back to the main structure, either directly or via an adjoining scaffold. The tower must be further supported with plan sway bracing at alternative lifts.

Unless there is a cage enclosure fitted to the hoist platform, the hoist scaffold tower shall be fully enclosed with a suitable mesh capable of retaining falling materials within the tower. In addition, winch motors shall also be suitably enclosed to provide protection to dangerous parts.

Overrun devices shall be fitted at the highest point to which the platform will need to run, (not closer than 900millimetres from the top of the mast)

Suitably boarded out and guarded walkways shall be provided at access points and gaps between the hoist platform, access platform and hoist tower shall be kept to a minimum.

Except for loading and off-loading purposes all gates shall be kept closed.

Only trained or experienced operators over the age of 18 years shall drive the hoist, the control of which shall be situated in one position only from where all access points are clearly visible.

10.19 Gin wheels

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SH9 STD2	SH PRO9	Rev 0	Declan Davis	May 16	7 of 9

Management System

Standard

The site manager shall:

- Ensure that a certificate of thorough examination is available and that weekly inspections are conducted and records kept, in the site register
- Ensure that systems are in place to ensure that gin wheels are correctly mounted and that safe anchors are used and that safe lifting methods are used
- Never allow a gin wheel to be suspended from a scaffold fitting
- Arrange for the gin wheel to be inspected on a weekly basis and the results entered into the site register.

Scaffolder's must ensure that:

- "Ring" type gin wheel are supported by slipping the ring over the end of a projecting scaffold tube and prevented from sliding by the fixing of two scaffolds fitting on either side of the ring
- Where the gin wheel has a hook instead of a ring, that the hook is fixed to the supporting member with a steel lashing wound in a figure of eight and tied off and that the hook is to be "moused" to prevent it coming out of the lashing a coupler is placed on either side of the lashing to prevent movement
- The supporting tube is secured on two standards or ledgers and secured with load bearing couplers
- The suspension point shall not project more than 750millimetres beyond the outer support
- Extra through ties shall be fitted from the scaffold back into the main structure to take the extra loads imposed.

The maximum recommended imposed load on any gin wheel is 50kilograms.

Only a tested rope, to BS 2052 Specification for ropes made from manila, sisal, hemp, cotton and coir, shall be used for lifting purposes and it shall be of the same diameter as the seating groove in the gin wheel.

The hook shall be tested and marked with the SWL and an identification number (safety catch hook etc., shall be used).

10.20 Lifting accessories

Are defined as: any work equipment used to attach a load to lifting equipment, this includes, but is not limited to:

- Chains
- Ropes
- Web roundslings/flat web Slings
- Shackles
- Ring bolts
- Lifting eyes
- Hooks
- Steel ropes
- Lifting beams
- Fibre lifting strops.

Load includes any material article or substance, including people used throughout the Company.

All lifting accessories shall be clearly marked with the SWL and an identification mark to link it to its certificate of thorough examination. All lifting accessories must be:

- Properly constructed and maintained
- Free of any defect or damage likely to affect its strength
- Regularly examined
- Securely attached to the load
- Not overloaded
- Tagged with the current colour code of thorough examination (if a colour code scheme is used).

The site manager

- Retains responsibility for the management and control of accessories for lifting. They shall delegate responsibility for this management and control to an AP for lifting operations, who shall

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SH9 STD2	SH PRO9	Rev 0	Declan Davis	May 16	8 of 9

Management System

Standard

have the training, practical and theoretical knowledge and experience required to ensure compliance with this guidance note and the regulations identified

- Shall ensure that a register of all lifting accessories is maintained on site and checks are made that ensure only lifting accessories which have a current six-monthly certificate of thorough examination are used on site or at works locations
- Shall ensure that lifting accessories are correctly stored, and that the correct capacity lifting accessories are issued for use and that they are not abused

The LOLER 1998 require that every lifting accessory shall be thoroughly examined before first use by the user and at six monthly intervals.

Prior to commencement of work the competent person shall:-

- Ensure current thorough examination certificates exist for each item of lifting accessory
- Check that a six-monthly thorough examination has been carried out on each lifting accessory
- Ensure that all lifting accessories are marked with the SWL and a unique identification number and colour coded
- Ensure that the weights of loads to be lifted are known in advance.

Whilst work is in progress the competent person shall

- Ensure that the angle of any slings, chains or strops etc. is not more than 90 degrees
- Ensure that any unused leg of a multi-leg sling or chain is correctly hooked back. Only SELF-LOCKING HOOKS are to be used on Fusion contracts
- Ensure that unfit lifting accessories are removed from service and labelled "quarantined" and the site register
- Ensure that only the correct shortening clutches are used. No chain is to be knotted or shortened using bolts etc.

The competent person shall ensure

- When not in use all lifting accessories shall be stored under good conditions, i.e. chain locker on a vehicle or site stores (rigging loft)
- Slings, chains etc shall never be used for towing
- Only approved self-locking hooks shall be used on lifting equipment. Some specific operations may require other types of hooks and where an exemption from this rule is necessary the approval of the SHEQ department is required
- For the suspension of man riding cages, a short-dedicated chain attached to the item with a locking shackle shall be used. On the other end of the chain shall be a large ring sufficient to fit directly over the crane hook
- All lifting accessories being supplied by and/or used by subcontractors must have a six-monthly certificate of thorough examination, which shall be made available for inspection by Fusion site management prior to use.

10.21 D and Bow shackles

- Improvised pins or ordinary bolts shall never be used in any shackle. Where there is a possibility of pins working loose, a safety shackle (with nut and split pin) shall be used
- Shackles shall be properly suspended, and the load transmitted to the hook on the pin
- All shackles shall be thoroughly examined every six months and a record kept
- The safe working load and a unique identification number shall always be stamped on all shackles and they must not be overloaded.
- 'D' shackles are to be used for straight lifting only or as an 'in-line' connection. They must not be used to attach more than one item of lifting accessories within the shackle.
- Bow shackles must be used to connect multiple items of lifting accessory.

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SH9 STD2	SH PRO9	Rev 0	Declan Davis	May 16	9 of 9